

### Solar power is more suited to Rural Areas than Mains Power

Articles in the Daily Nation have described the difficulties of rural electrification mainly from the financial aspect. The Rural Electrification Programme suffered a loss of Sh10m last year with a projected loss of Sh736m next year resulting, naturally, in a scaling down of the programme by one third due to rising installation costs and the theft of power. Indeed it is a political issue whenever MP's meet their constituents and promise 'to bring power' soon resulting in groups within circles of 600m radius or, (is it diameter?), registering their details and a few thousand shillings 'to have something in the bank' but little is heard subsequently.

Indeed the thought of connecting every scattered rural house is daunting and costly as a recent article, again in the DN, indicated an average cost of Sh200,000. Furthermore the theory of job creation which will result from this form of electrification is difficult to prove as the owners tend to use very small amounts due to the cost.

Trading centres, however, fall into a different category as with the coming of power immediate increases in employment can be observed and the cost per installation is much less due to the proximity of the users. Soon after connection is made new industries appear such as metal working jua kali artisans, cafes, radio/TV repairers and hair salons while the bars sell cold ones and meat can now be safely preserved for longer periods.

Rural electrification programmes have been operational since 1974 with a good record of connections in the early years but current plans do not appear to have considered advances in technology since that time.

In a country straddling the equator the untapped potential of the sun has only been exploited by the private sector through solar power. Indeed it is spreading rapidly due to developments which have made solar powered equipment more efficient.

For those less familiar with solar power, the panels convert the energy of the sun into electrical energy at 12 v which is the same voltage as most cars. This energy is stored in batteries for use at night when there is no sun.

The lowest cost of a complete unit for lighting is currently advertised at sh10,000/- and this will also charge mobiles and operate a radio. One of the main advantages of solar power is that it can be upsized, as means permit, by adding more or larger panels and batteries.

It can be used to operate TV's, videos, fridges, portable computers, e-mail and internet as well as small household mincers, mixers and water pumps. More equipment is continually being produced specifically for solar power at 12 v and it consumes less power than earlier types.

While the energy from the sun may be free there are operating costs to be considered. Firstly the batteries need to be replaced at about three year intervals and the cost of this is about sh 300/- per month, then the output of the panels starts to decrease after about 10 years depending on the make. The output of those described here has reduced to 50% after 18 years but it is not easy to know from the current adverts in the press just how long they will last.

Finally the greatest attribute of solar power is reliability, while rivers rise and fall or even dry up the sun always appears in the morning even if hidden by cloud.

During 30 years experience of solar power the lights have never failed to come when the switch is pressed – how many other systems have that level of reliability?